

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Valley Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

PolyOne Engineered Films, Inc.
Winchester, Virginia
Permit No. VRO80333

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, PolyOne Engineered Films, Inc. has applied for a Title V Operating Permit for its performance polymer and engineered film calendering, coating, and printing facility in Winchester. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____

Air Permit Manager: _____ Date: _____

Regional Permit Manager: _____ Date: _____

FACILITY INFORMATION

Permittee

PolyOne Engineered Films, Inc.
Post Office Box 3510
Winchester, Virginia 22604

Facility

PolyOne Engineered Films, Inc.
1944 Valley Avenue
Winchester, Virginia 22601-2711

AIRS ID No. 51-840-0060

SOURCE DESCRIPTION

SIC Code: 3083 – Laminated plastics plate, sheet, and profile shapes
3081 - Unsupported plastics film and sheet

PolyOne Engineered Films, Inc. (PolyOne) operates a performance polymer and engineered film calendering, coating, and printing facility in Frederick County. The plant has three calenders that produce flexible sheet vinyl plastics. The plastic sheets are painted on one of four spray paint lines, printed on a rotogravure printing press, or laminated on one of four laminators according to customer requirements. The finished products are used for automotive, medical, industrial, and recreational purposes.

The facility is a Title V major source of VOC and HAPs. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility was previously permitted under a Minor NSR Permit issued on January 16, 2001.

COMPLIANCE STATUS

The facility is inspected once a year. PolyOne was last inspected July 21, 2000 and is currently in compliance with all applicable requirements.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following :

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
BLR1	1	Peabody Engineering/E. Keeler Co. Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1951 (coal to NG/No. 2 oil firing conversion - 1968)	36 MMBtu/hr	-	-	-	-
BLR2	2	Peabody Engineering/E. Keeler Co. Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1972	16 MMBtu/hr	-	-	-	-
PHTR16	3	American Hydrotherm Calender No. 3 Hot Oil Generator	16.8 MMBtu/hr	-	-	-	-
Painting Operations							
PNTKTN	4	Paint kitchen	-	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	1/16/01

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
PNTLAB	4	Paint laboratory	-	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	1/16/01
PNT1	4	Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens	2,645 sq. yard vinyl/hr for PNT1 through PNT3 combined	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	1/16/01
PNT2	4	Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens	2,645 sq. yard vinyl/hr for PNT1 through PNT3 combined	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	1/16/01
PNT3	4	Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens	2,645 sq. yard vinyl/hr for PNT1 through PNT3 combined	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	1/16/01
PNT4	48	Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens		Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL2	VOC, VHAP	1/16/01
Laminating Operations							
LAM2	7 - 10	Laminator (including embossing and adhesive material mixing)	404 sq. yard vinyl/hr average	-	-	-	-

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
LAM3	4 or 11	Kawakami Laminator (including adhesive material mixing)	20 m vinyl/hr	Smith Engineering Company regenerative thermal oxidizer (RTO)-optional	CNTRL1 (intermittent)	VOC, VHAP	1/16/01
LAM4	12	Kawakami Laminator (including adhesive material mixing)	20 m vinyl/hr	-	-	-	1/16/01
Rotogravure Printing Operations							
LEMB	16 - 19	Lembo 4-Station Rotogravure Printing Press (vinyl substrate)	1,490 sq. yards vinyl/hr	-	-	-	-
Calendering Operations							
CAL1	20	Farrel Calender	1,255 sq. yards vinyl/hr	O'Sullivan stack-in-stack	CNTRL5	VOC, PM, PM-10	-
CALMIX1a	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Osprey baghouse (vents indoors)	CNTRL3	PM, PM-10	-
CALMIX1b	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Farr baghouse (vents indoors)	CNTRL4	PM, PM-10	-
CAL2	21 - 22	Nippon Roll Calender	2,404 sq. yards vinyl/hr	-	-	-	-
CALMIX2a	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Osprey baghouse (2 units) (vents indoors)	CNTRL6	PM, PM-10	-

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
CALMIX2b	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Osprey baghouse (vents indoors)	CNTRL7	PM, PM-10	-
CAL3	24	Kraffanlagen Heidelberg Calender	6,865 sq. yards vinyl/hr	O'Sullivan stack-in-stack	CNTRL10	VOC, PM, PM-10	-
CALMIX3a	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Osprey baghouse (3 units) (vents indoors)	CNTRL8	PM, PM-10	-
CALMIX3b	(NA)	Raw material mixing equipment	~1.6 ton mix/hr @ 6 530-lb batches/hr	Osprey baghouse (vents indoors)	CNTRL9	PM, PM-10	-
Materials Handling Operations							
RES-CONV1	25 - 40	Pneumatic PVC Resin Material Transfer Equipment	10 tons/hr	Flex-Kleen baghouse (Stacks 25 - 39); Pacific Engineering Company baghouse (Stack 40)	CNTRL12 - CNTRL26	PM, PM-10	-
RES-CONV2	41 - 48	Pneumatic PVC Resin Material Transfer Equipment	10 tons/hr	Pacific Engineering Company baghouse	CNTRL27 - CNTRL35	PM, PM-10	-
Storage Tanks							
TNK-0021	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-0022	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-0023	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-0024	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-0025	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
TNK-0026	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-0061	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-0062	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-0063	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-0064	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-0065	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-0066	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 1998 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

1998 Actual Emissions

	Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO ₂	PM ₁₀	NO _x
Laminator 2	12.5	0	0	0	0
Paint Lines 1–3, Lembo, Laminator 3	444.5	0	0	0	0
Paint Line 4	1.1	0	0	0	0
Hot oil generator	0.04	0	0.01	0.09	0.75
RTO fuel combustion	0.30	0	0.03	0.61	5.12
Calender 2	6.6	0	0	0.66	0
Calender 3	5.7	0	0	0.50	0
Calender 1	6.8	0	0	0.59	0
Gas heaters	0.10	0	0.01	0.01	1.75
Degreaser	1.42	0	0	0	0
Ovens	0.10	0	0.01	0.20	1.66
Total	479.2	0	0.06	2.94	11.5

HAP emissions were not quantified in PolyOne's application. For fee purposes, HAP emissions are included in the facility's VOC emissions total.

FUEL BURNING EQUIPMENT REQUIREMENTS - Emission Units BLR1, BLR2, and PH1

Limitations

PolyOne has three fuel-burning units subject to 9 VAC 5 Chapter 40: two boilers rated at 36 MMBtu/hr and 16 MMBtu/hr and a hot oil generator rated at 16.8 MMBtu/hr. The boilers provide steam for process operations and for heating buildings. The hot oil generator is used on the calendering line. All three units primarily fire natural gas and use No. 2 oil as a backup fuel.

The following limitations are State BACT requirements from the Minor NSR Permit issued January 16, 2001, for the hot oil generator (PH1). Please note that the condition numbers are from the Minor NSR permit, a copy of which is attached (Attachment B).

Condition 17, limiting allowable fuels to natural gas and distillate oil;

Condition 21, limiting emissions from the hot oil generator;

Condition 23, limiting visible emissions from the hot oil generator to 10%.

The boilers are subject to general fuel-burning equipment limitations based on the rules for existing sources (9 VAC 5 Chapter 40). The boilers are not covered under a NSR permit because they were constructed prior to applicable permitting dates.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable to the boilers:

9 VAC 5-40-900: Particulate matter emissions are limited as determined using the equation $E = 0.36H$, where E is the emission limit in lbs/hr and H is the actual heat input in MMBTU/hr.

9 VAC 5-40-930: Sulfur dioxide emissions from fuel burning equipment installations are limited as determined by the equation $S = 2.64K$, where S is the emission limit in lbs/hr and K is the total heat input capacity in MMBTU/hr. The limit is 137 lbs/hr based on the combined rated heat input of 52 MMBTU/hr for BLR1 and BLR2.

9 VAC 5-40-940: Visible emissions from existing fuel burning equipment are restricted to twenty percent (20%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed sixty percent (60%) opacity.

VAC 5-20-180: Boiler operators shall be adequately trained to properly operate the equipment. This training shall be recorded and made available for inspection.

A condition has been added to limit fuels used in the boilers to natural gas and No. 2 oil. The permit also limits the sulfur content of the fuel to 0.5%. The limit codifies the facility's current practice and prevents further monitoring requirements that would be necessary if residual oil was used.

Monitoring and Recordkeeping

Opacity has been chosen as a surrogate indicator for particulate matter emissions. During periods in which distillate oil is used in BLR1, BLR2, or PH1, PolyOne will perform weekly inspections of the boiler or generator stack(s) to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (40 CFR Part 60, Appendix A) visible emission evaluation (VEE) will be conducted for a minimum of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until a total of 60 minutes of observation have been completed.

At maximum boiler capacity, the particulate matter emission limit for all three combustion units combined is 24.8 lbs/hr, according to 9 VAC 5-40-900 B. Potential particulate emissions from the operation of both boilers and the hot oil generator combined (based on use of No. 2 oil) using AP-42 emission factors is shown in the following table.

Table 1. Potential particulate emissions from combustion units

Fuel Type	Capacity of Fuel Burning Equipment	Maximum Hourly Throughput	AP-42 Emission Factor for PM (lb/1000 gal)	Maximum lb/hr Emissions of PM	Calculated PM Emission Standard
No. 2 Fuel Oil	52 MMBtu/hr	0.3768 mgal/hr	2	0.754 lb/hr	24.8 lb/hr

The maximum expected particulate emissions using AP-42 emissions factor is far below the allowable limit. Therefore, there is reasonable assurance that the particulate matter emission limit will not be violated as long as the opacity limit is not exceeded. Boiler inspection reports have revealed no past violations of the opacity limitations contained in this permit.

The allowable sulfur dioxide emission limit for the boilers combined equals 137 lbs/hr. The AP-42 emission factor for sulfur dioxide assumes that all of the sulfur is converted to sulfur dioxide. Potential sulfur dioxide emissions from the boilers (based on use of No. 2 oil) are included in the following table.

Table 2. Potential sulfur dioxide emissions from combustion units

Fuel Type	Capacity of Fuel Burning Equipment	Maximum Hourly Throughput	AP-42 Emission Factor for Sulfur Dioxide (lb/1000 gal)	Maximum Sulfur Content (S)	Maximum lb/hr Emissions of Sulfur Dioxide	Sulfur Dioxide Emission Standard
No. 2 Fuel Oil	52 MMBtu/hr	0.3768 mgal/hr	142 S	0.5	26.8	137

Since the AP-42 emission factor assumes that all of the sulfur in the fuel is converted to sulfur

dioxide, the sulfur dioxide emission limit can not be exceeded as long as the sulfur content of the fuel does not exceed 0.5%. The permit sets the maximum allowable sulfur content at 0.5%. The permittee is required to obtain a certification from the fuel supplier with each shipment of distillate oil, showing the sulfur content (in percent) of the oil. The permittee is required to retain the fuel certifications. If only distillate oil is used, the SO₂ limit will not be violated. Accordingly, keeping records of the type of fuel purchased and its sulfur content meets the periodic monitoring requirement for SO₂ emissions.

The permittee will keep records of annual throughput of fuel, weekly visible emission inspections, any performed VEE's, boiler/generator operator training and boiler/generator maintenance.

Testing

A table of test methods is included in the permit for use if testing is conducted in addition to the monitoring required. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

PAINTING OPERATION REQUIREMENTS – Emission Unit IDs PNTKTN, PNTLAB, PNT1 – PNT4

Limitations

The following VOC limitations are State BACT requirements from the Minor NSR Permit issued January 16, 2001, for the PNTKTN (Paint Kitchen), PNTLAB (Paint Lab), and PNT1 – PNT4 (Paint Lines 1 – 4). Please note that the condition numbers are from the Minor NSR permit, a copy of which is attached (Attachment B).

Condition 4, requiring that VOC emissions from PNT1 – PNT3 be controlled by an 80% efficient capture system and a regenerative thermal oxidizer (RTO) and that the RTO shall be provided with adequate access for inspection;

Condition 5, requiring that VOC emissions from PNT4 be controlled by permanent total enclosure and an RTO and that the RTO shall be provided with adequate access for inspection;

Condition 6, requiring that VOC emissions from PNTKTN be controlled by permanent total enclosure and an RTO and that the RTO shall be provided with adequate access for inspection;

Condition 8, requiring that the RTO serving PNT1 – PNT3 and the PNTKTN achieve a 95% destruction efficiency;

Condition 9, requiring that the RTO serving PNT4 achieve a 99% destruction efficiency or an emissions rate of not more than 7.8 pounds VOC per hour;

Condition 10, listing the criteria for total enclosure;

Condition 11, specifying a minimum combustion zone temperature and residence time for the RTO controlling PNT1 – PNT3;

Condition 12, specifying a minimum combustion zone temperature and residence time for the RTO controlling PNT4;

Condition 18, authorizing use of natural gas and No. 2 fuel oil as auxiliary fuels for the RTOs;

Condition 19, limiting VOC emissions from the paint lines and kitchen and from the paint lab to 1037 and 30 TPY, respectively;

Condition 24, limiting visible emissions from each RTO to 5% opacity.

The following requirement, related to Compliance Assurance Monitoring (CAM) (40 CFR 64), establishes a threshold at which PolyOne is required to develop a Quality Improvement Plan: For Paint Line 4 (PNT4), the permittee shall develop a Quality Improvement Plan (QIP) according to 40 CFR 64.8 if more than six excursions from the indicator range specified in the

Compliance Assurance Monitoring (CAM) Plan (Attachment A) occur within a semi-annual period. An excursion shall be defined as any three-hour period of operation during which the average combustion zone temperature is outside of the indicator range specified in the CAM Plan. Semi-annual periods are as indicated by reporting requirements in Condition XII.C.3.

Monitoring

The monitoring requirements for the painting operations (PNT1 – PNT4, PNTKTN, and PNTLAB) in the 1/16/01 Minor NSR permit have been modified to meet Part 70 requirements.

The permit requires PolyOne to continuously measure and record the combustion zone temperature in each RTO. There are no monitoring requirements related to retention times (specified in Conditions 11 and 12 of the 1/16/01 Minor NSR permit) because the required RTO retention time is a design parameter and represents the retention at maximum flow rate (the minimum retention time).

For each paint line and the paint kitchen and paint lab, the permittee will monitor and record on a monthly basis coating usage, VOC content of the coating, and the number of hours of operation. Using these data, the permittee will calculate monthly and annual VOC throughput and emissions to demonstrate compliance with emission limitations. The permit requires that annual emissions calculations be based on the following formula (derived from Condition 15 of the Minor NSR permit):

$$V_{EM} = (V_{TPUT} - V_{REC} - V_{RET}) \times (1 - OCE)$$

Where

V_{EM}	=	Annual emissions of VOCs in tons.
V_{TPUT}	=	Annual throughput of VOCs in tons.
V_{REC}	=	Annual amount of VOCs recovered or disposed of off-site in tons.
V_{RET}	=	Annual amount of VOCs retained in the products in tons
OCE	=	overall control efficiency (the product of capture efficiency and control device destruction efficiency)

The value for VOCs retained in product used in emission calculations must be approved by the Director, Valley Regional Office. Capture efficiencies and control device destruction efficiencies to be used are that indicated by the most recent performance testing.

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coating. For the past several years, PolyOne has operated at levels well below (at less than 50% of) its emission limits. Because of the large margin of compliance, the permit allows the VOC content of coating as supplied used in emission calculations to be based on manufacturer formulation data as shown on the Material Safety Data Sheet (MSDS) for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates emissions at 75% or more of the allowable annual emissions, quarterly testing of each product formulation is required. The testing shall be determined, by either the permittee or supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each coating shipment must be identified by a

product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions are below 75% of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each formulation be used in lieu of MSDS information.

In PolyOne's case, the likelihood of emission violations from the paint lines is very low. For several years, PolyOne has operated well below (at less than 50% of) its allowable limits. The paint lines are controlled by RTOs that are subject to extensive parametric monitoring requirements. Periodic stack testing of the RTOs is also required. Emissions vary little due to use of controls and of coatings having similar VOC content. It is not economically reasonable to perform reference method testing on the coatings if actual emissions are below 75% of allowable emissions. The likelihood of an emissions violation when actual emissions are below the 75% threshold is low given the other monitoring requirements imposed in the permit. The required monitoring of RTO parameters, periodic stack testing, VOC usage records, and the obligation to test coatings if the actual/allowable emissions ratio exceeds 75% provide a reasonable assurance of compliance with the limits and therefore satisfies the periodic monitoring requirement.

There is no monitoring for the visible emissions requirement. Historically, there have been no visible emissions from the paint line RTOs. Operation of the painting operations is therefore not expected to result in visible emissions.

Compliance Assurance Monitoring (CAM)

PolyOne's title V permit application was found to be complete before April 20, 1998. Subsequent to the completeness determination, PolyOne installed Paint Line 4 (PNT4), which is a major source of HAPs, after controls. As a result, Paint Line 4 is subject to CAM requirements (40 CFR 64).

The monitoring prescribed for Paint Line 4 in PolyOne's minor NSR permit satisfies much of the CAM requirements. PolyOne submitted a CAM Plan April 24, 2000 (Attachment C), which, in addition to the temperature monitoring required by its minor NSR permit, proposes periodic maintenance of the RTO and periodic stack testing. Based on PolyOne's CAM proposal, the following indicators have been chosen for CAM:

- 1) Combustion zone temperature of at least 1550 °F
- 2) Semi-annual inspections of the RTO valves to verify seal integrity
- 3) Periodic performance testing of RTO (before September 30, 2001, and every three years thereafter; frequency may be reduced if first two tests (not including initial test already completed) show compliance)

The Plan references performance test results (test date March 31, 1999) derived in accordance with the minor NSR permit to verify compliance with the destruction efficiency requirement. The minimum combustion zone temperature required in the minor NSR permit (1550 °F) was based

on the performance test conditions. The test results, previously approved by and retained on file at VRO, establish the correlation between the required indicator range (combustion zone temperature greater than or equal to 1550 °F) and compliance with the destruction efficiency requirement. In addition to stating the acceptable minimum combustion zone temperature, CAM incorporated into the permit specifies thermocouple measurement range and chart recorder sensitivity. Further, it elaborates on the data collection frequency and procedure, codifying PolyOne's current practice. CAM additionally requires an annual check of thermocouple accuracy.

Based on discussions between VRO staff and a representative of Smith Engineering, the RTO manufacturer, VRO staff has concluded that the RTO valve system operation is integral to achieving the required 99% destruction efficiency. Valve integrity, i.e., prevention of leakage through closed butterfly valves on air lines leading to the regenerative beds, is just as important as temperature in maintaining destruction efficiency in the 99% range. Therefore, the CAM requirements incorporated into the Title V permit increase the frequency and specify the focus of the maintenance checks proposed in PolyOne's plan. CAM included in the permit requires semi-annual inspections that focus on verifying valve seal integrity and repair or replacement of the valves as needed. CAM provisions further state that such inspections shall be conducted by the RTO manufacturer or an authorized technician familiar with RTO operating principles.

A third provision of CAM for Paint Line 4's RTO is periodic stack testing. CAM included in the permit requires stack testing before March 2001 and every three years thereafter. If the first two tests show compliance, PolyOne may request a reduction in testing frequency. Physical integrity of the permanent total enclosure shall be verified concurrently with the stack test.

The table below summarizes the permit provisions that, according to 40 CFR 64, must be in the Title V permit:

Table 3. Permit conditions required by 40 CFR 64 (CAM)

40 CFR 64 reference	Requirement – What must be included in permit	PolyOne's permit provision
64.6(c)1	Approved monitoring approach, including indicators to be monitored, indicator measurement methods, and performance criteria in 40 CFR 64.3	CAM Plan (permit Attachment A) specifies listed requirements
64.6(c)2	Means of defining excursions and associated averaging period	Excursion and averaging period are defined in Condition IV.A.12
64.6(c)3	The obligation to conduct Compliance Assurance Monitoring	Obligation is stated in Condition IV.B.5
64.6(c)4	If appropriate, minimum data availability requirement	Condition IV.B.1 requires continuous temperature monitoring and recording; CAM Plan (permit Attachment A) specifies method of calculating three-hour average.

The permit also establishes a threshold (more than six excursions in a semi-annual period) for developing a CAM Quality Improvement Plan (QIP) according to 40 CFR 64.8. The permit defines an excursion as any three-hour period of operation during which the average combustion zone temperature is outside the range specified in the incorporated CAM Plan.

Table 4 summarizes the reporting and recordkeeping provisions that, according to 40 CFR 64, must be included in the Title V permit.

Table 4. Reporting and recordkeeping required by 40 CFR 64 (CAM)

40 CFR 64 reference	Reporting or Recordkeeping Requirement	PolyOne's permit provision
64.9(a)(2)(i)	Summary of number, duration, and cause of excursions and corrective actions taken	Requirement in Condition IV.E.2
64.9(a)(2)(ii)	Summary of number, duration, and cause of monitoring equipment downtime incidents, other than for routine calibration checks	Requirement in Condition IV.E.2
64.9(a)(2)(iii)	Description of actions taken to implement a QIP and, upon completion of QIP, documentation that QIP was completed and reduced the likelihood of excursions	Requirement in Condition IV.E.2
64.9(b)	Records of monitoring data, monitor performance data, corrective actions taken, written QIPs, actions taken to implement a QIP, and other supporting information	Requirement in Condition IV.C.9

CAM requirements for Paint Line 4 (PNT4) have been summarized in a table and included as an attachment to the permit. The requirements have been incorporated into the permit by reference (in Condition IV.B.5 in the Painting Operations monitoring section). The permit includes a condition stating PolyOne's obligation to conduct monitoring specified in the permit's CAM attachment. The parametric monitoring, work practices, and periodic stack testing included in the permit's CAM plan will provide an assurance of compliance with applicable requirements for Paint Line 4 (PL4) and therefore satisfy the requirements of 40 CFR 64.

Other Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by Condition 25 of the Minor NSR permit. These records include:

- Certified MSDS or VOC Data Sheet showing VOC content of each coating used
- RM24 or 24A test results, if the testing requirement is triggered by actual emissions
- the monthly and rolling annual throughput of each coating
- VOC recovered each month
- monthly and rolling annual emissions of VOC
- average combustion zone temperature of each RTO during actual painting operations
- notation of any three-hour periods during actual painting operations during which the average combustion zone temperature was below the required value
- strip chart showing continuous combustion zone temperature for RTO serving PNT4
- all performance test results, including stack testing and testing to verify that enclosures meet the permanent total enclosure criteria enumerated in the permit.
- data required to show compliance with the CAM Plan (see Table 4)

Testing

As mandated by Condition 14 of the 1/16/01 Minor NSR Permit, the operating permit requires

that the facility be constructed so as to allow for emissions testing and monitoring upon reasonable notice.

The permit requires periodic stack testing of the RTO serving Paint Line 4 (PNT4) using EPA Method 25 or 25A to confirm ongoing compliance. Furthermore, for the RTO serving Paint Lines 1 – 3 (PNT1 – PNT3), stack testing is required if actual emissions for Paint Lines 1 – 3 exceed 50% of the allowable rate. Such testing is required no more than once every five years.

A table of test methods has been included in the permit if testing other than that explicitly required in the permit is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

As required by Condition 26 of the 1/16/01 Permit, the Title V permit includes quarterly reporting of periods in which the combustion zone temperature is below the required value. PolyOne is also required to notify the Director, Valley Regional Office of proposed performance testing dates and provide a written protocol.

Reporting required by 40 CFR 64 (CAM) has also been included in the permit (see Table 4).

Streamlined Requirements

The Minor NSR permit contains an opacity limit of five percent, which has been included in the Title V permit. The permit opacity limit is more stringent than the regulatory limit of 20% in 9 VAC 5-50-80. Accordingly, compliance with the permit limit ensures compliance with the regulatory limit, so the regulatory limit has not been included in the title V permit.

LAMINATING OPERATIONS – Emission Unit ID #s LAM2, LAM3, and LAM4

Limitations

The following limitations are State BACT requirements from the Minor NSR permit issued January 16, 2001. Requirements related to operation of the RTO are included in Painting Operation Limitations. Please note that the condition numbers are from the Minor NSR permit, a copy of which is attached (Attachment B).

Conditions 3 and 7, stating that Laminator 3 (LAM3) may be controlled by a 95% efficient capture system and an RTO any time except when all of Paint Lines 1 – 3 are operating.

Condition 22, limiting annual VOC emissions from Laminators 3 and 4 (LAM3 and LAM4) to 100 tpy each.

The following section of the Virginia Administrative Code was found to be applicable to Laminator 2 (LAM2):

9 VAC 5-40-80, Standard for Visible Emissions

The following section is applicable to Laminator 3 (LAM3) and Laminator 4 (LAM4):

9 VAC 5-50-80, Standard for Visible Emissions, New and Modified Sources

Monitoring

The monitoring requirements for the laminating operations in the 1/16/01 Minor NSR permit have been modified to meet Part 70 requirements (only Laminators 3 and 4 (LAM3 and LAM4) are covered by the permit). Please note that monitoring requirements related to the RTO have been included in the Painting Operations section.

For each laminator, the permittee will monitor and record on a monthly basis coating and adhesive usage, VOC of the coating or adhesive, and the number of hours of operation. Using these data, the permittee will calculate monthly and annual VOC throughput and emissions to demonstrate compliance with emission limitations. The permit provides formulas to be used in calculating emissions. For emissions from Laminator 3 (LAM3) during times when such emissions are treated by the RTO, the formula provided in the Painting Operations section will be used. To calculate uncontrolled emissions from Laminators 2 and 4 and, when appropriate, Laminator 3, the following equation will be used:

$$V_{EM} = V_{TPUT} - V_{REC} - V_{RET}$$

Where

V_{EM} = Annual emissions of VOCs in tons.
 V_{TPUT} = Annual throughput of VOCs in tons.
 V_{REC} = Annual amount of VOCs recovered or disposed of off-site in tons.

$$V_{\text{RET}} = \text{Annual amount of VOCs retained in the products in tons}$$

Annual emissions are to be calculated monthly as the sum of each consecutive 12-month period. The value for VOCs retained in product used in emission calculations must be approved by the Director, Valley Regional Office.

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coatings and adhesives. For the past several years, PolyOne has operated at levels well below (at less than 50% of) its emission limits. Because of the large margin of compliance, the permit allows the VOC content of coating or adhesive as supplied used in emission calculations to be based on manufacturer formulation data as shown on the Material Safety Data Sheet (MSDS) for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates emissions at 50% or more of the allowable annual emissions, quarterly testing of each product formulation is required. The testing shall be determined, by either the permittee or supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each coating and adhesive shipment must be identified by a product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions are below 50% of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each formulation be used in lieu of MSDS information.

There is no monitoring for the visible emissions requirement. Laminating operations at PolyOne have historically produced no visible emissions. Operation of the laminators is not expected to result in visible emissions.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. Please note that recordkeeping requirements related to the RTO are included in the Painting Operations section. Records required to show compliance with laminator requirements include:

- Certified MSDS or VOC Data Sheet showing VOC content of each coating and adhesive used
- Reference Method 24 test results
- the monthly and rolling annual throughput of each coating and adhesive
- VOC retained in product and hazardous waste each month
- monthly and rolling annual emissions of VOC
- total hours that Laminator 3 (LAM3) vents to the atmosphere and total hours that it vents to the RTO (monthly and rolling 12-month)

Testing

As mandated by Condition 12 of the 1/16/01 Minor NSR Permit, the operating permit requires that the facility be constructed so as to allow for emissions testing and monitoring upon reasonable notice. A table of test methods has been included in the permit if testing other than that explicitly required in the permit is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Streamlined Requirements

There are no streamlined requirements for laminating operations.

ROTOGRAVURE PRINTING OPERATIONS – Emission Unit ID LEMB (Lembo printer)

Limitations

The following limitations and requirements are derived from 40 CFR 63 Subpart KK (National Emission Standards for the Printing and Publishing Industry) as designated for product rotogravure printing.

- HAP emissions from the Lembo printer shall be limited to no more than four percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month;
- If a different compliance option under 40 CFR 63 Subpart KK is chosen in the future, a permit modification may be required;

The following sections of the Virginia Administrative Code were determined to be applicable:

9 VAC 5-40-80 Standard for Visible Emissions

40 CFR 63 Subpart KK imposes limits on organic HAP emissions from rotogravure printing while offering a variety of compliance options for doing so. Product rotogravure facilities such as PolyOne may comply through use of capture and control equipment, the substitution of non-HAP solvents for HAP, or a combination of these methods. Ten options for demonstrating compliance are delineated in 40 CFR 63.825 for product rotogravure facilities. PolyOne has chosen to comply with 40 CFR 63 Subpart KK by limiting emissions to four percent of the mass of materials applied, as specified in 40 CFR 63.825(b)(4). It should be noted that PolyOne may in the future choose to comply with 40 CFR 63 Subpart KK through use of any option given in 40 CFR 63.825 (such a change would require a modification of the minor new source review and Title V permits).

Monitoring

In accordance with 40 CFR 63 Subpart KK, the permit requires PolyOne to demonstrate compliance with the mass HAP percent limit by EPA Reference Method (RM) 311 testing, using the VOC content as determined by EPA RM 24 testing, or use Certified Product Data Sheet (CPDS) information. Also included in the permit is a formula from 40 CFR 63 Subpart KK to be used to calculate the monthly average as-applied organic HAP content of all materials used on the Lembo printer (LEMB), shown below.

$$H_L = \frac{\sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_j}$$

Where

H_L = the monthly average as-applied organic HAP content of all

solids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, in kg/kg

M_i = the mass of ink or other material, i, applied in a month, in kg

C_{hi} = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, in kg/kg

C_{hj} = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg

M_j = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

40 CFR 63 Subpart KK also requires calculation of actual total HAP emissions from the rotogravure press each month, according to the following equation:

$$H = \sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}$$

Where

H = the total monthly organic HAP applied, in kg

M_i = the mass of ink or other material, i, applied in a month, in kg

C_{hi} = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, in kg/kg

C_{hj} = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg

M_j = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

The calculation assumes that the organic HAP emitted from the Lembo printer (LEMB) is equal to the organic HAP applied on the printer.

The permit requires PolyOne to inspect each Lembo printer (LEMB) stack weekly for visible emissions. If any visible emissions are present, a six-minute visible emissions evaluation (VEE) must be performed according to Method 9 (40 CFR Part 60, Appendix A). If during the six minutes any violations of the 20% opacity standard are noted, a one-hour VEE is required to demonstrate compliance with the standard. Timely corrective action is required if a violation is determined to have occurred. This will meet the periodic monitoring requirement for the visible emission limit included in the permit.

Recordkeeping

The permit includes requirements for maintaining records of all data needed to show compliance with the permit. These records include:

- Annual throughput of each material applied on the Lembo printer (LEMB), calculated monthly as the sum of each consecutive 12-month period;
- HAP content of each material applied
- HAP emissions from the Lembo printer (LEMB), calculated monthly as the sum of

each consecutive 12-month period;

- Monthly average as-applied organic HAP content of all materials applied at the Lembo printer (LEMB);
- Results of weekly stack inspections.

Testing

The permit requires that the facility be constructed so as to allow for emissions testing at any time using appropriate methods, as required by 9 VAC 5-40-30. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permit delineates reporting requirements from 40 CFR 63 Subpart KK. PolyOne is required to submit a semi-annual summary report (40 CFR 63.10(e)(3)(vii) and (viii)).

CALENDERING OPERATIONS – Emission Unit ID #s CAL1 - CAL3, CALMIX1a-b, 2a-b, and 3a-b

Limitations

The following limitations from the Virginia Administrative Code for existing sources of air pollution have been determined to be applicable.

- 9 VAC 5-40-80, limiting visible emissions from the calenders and calender mixing units (CAL1 – CAL3 and CALMIX1a,b – CALMIX3a,b) to 20% opacity, except for one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity;
- 9 VAC 5-40-260 C, limiting PM emissions from each calender (CAL1 – CAL3) and each calender mixing unit (CALMIX1a,b – CALMIX3a,b) according to the following equation:

$$E = 4.10P^{0.67}$$

Where

E = emission rate in lbs/hr

P = process weight rate in tons/hr

A requirement to control PM emissions from the calender mixing units (CALMIX1a,b – CALMIX3a,b) using a fabric filter has been included. The facility currently controls the mixing units with baghouses; including the control requirement in the permit simplifies monitoring required to demonstrate compliance with the PM emission limit for those units. It should be noted that the mixing unit baghouses currently vent within the facility.

Monitoring

To monitor compliance with the visible emissions limit, the permit requires PolyOne to perform weekly inspections of the stacks of the calenders (CAL1 – CAL3). If visible emissions are seen from the calender stacks, an EPA Method 9 test shall be performed for at least six minutes. If any of the observations exceed the standard, the test shall continue until 60 minutes of observation have been completed. If the test indicates a violation, corrective action shall be taken. Because the calender mixing units (CALMIX1a,b – CALMIX3a,b) vent indoors, PolyOne is not required to monitor visible emissions until such time as they may be vented to the atmosphere. Actual PM emissions from the calenders have historically been very low (less than two tpy for all three combined) and there is no documentation in DEQ files of visible emissions violations from the units. The permit requires PolyOne to take timely corrective action if visible emissions are noted. Therefore the weekly stack inspections will provide a reasonable assurance of compliance with the opacity limit and therefore meets periodic monitoring standards.

PolyOne has derived an emission factor to calculate PM emissions based on stack testing (December 1997) of similar calenders and control devices at its Lebanon PA facility. The test data indicate an uncontrolled emission factor of 0.155 lb PM/ton vinyl produced. It should be noted that Calenders 1 and 3 (CAL1 and CAL3) are controlled by a custom-made “stack-in-stack” configuration designed by PolyOne to collect PM by centrifugal force. The stack-in-stack

device is not required by regulation or permit and was voluntarily installed.

The calender mixing units (CALMIX1a,b – CALMIX3a,b) upstream of each calender have a maximum capacity of 1.6 tons per hour. Because the resin must be properly blended and mixed before it can be fed to the calenders, the mixing unit capacities effectively limit the input to each calender. Using the calender mixing unit capacity of 1.6 TPH as the maximum possible feed rate to each calender, the maximum allowable emission rate may be determined, based on the Process Weight Rate formula in the permit:

$$E = 4.10P^{0.67}$$

Where

E = emission rate in lbs/hr

P = process weight rate in tons/hr

so

$$E = 4.10 (1.6)^{0.67}$$

= 5.62 lbs PM/hr maximum allowed for each calender
at maximum feed rate

Using the emission factors derived from the Lebanon facility stack testing data and the maximum feed rate of 1.6 TPH to each calender yields maximum actual emissions, not including any control achieved by the stack-in-stack device, as follows:

$$(1.6 \text{ TPH}) \times (0.155 \text{ lbs PM/ton vinyl produced}) = 0.25 \text{ lbs PM/hr from each calender}$$

The calculations demonstrate that maximum emissions of each of the three calenders is far below the allowable level. It is reasonably assumed that the emissions limit will not be exceeded at the maximum feed rate to the calender lines.

Recordkeeping

The permit requires PolyOne to maintain records necessary to demonstrate compliance. Such records include annual throughput processed by the calenders and mixers, the annual hours of operation of each unit, and records of the weekly stack inspection results and any subsequent corrective action.

Testing

The permit requires that the facility be constructed so as to allow for emissions testing at any time using appropriate methods, as required by 9 VAC 5-40-30. The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

MATERIALS HANDLING OPERATIONS – Emission Unit IDs RESCONV1 and RESCONV2

Limitations

The following limitations from the Virginia Administrative Code for existing sources of air pollution have been determined to be applicable.

- 9 VAC 5-40-80, limiting visible emissions from the resin conveyor stacks (RESCONV1 and RESCONV2) to 20% opacity, except for one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity;
- 9 VAC 5-40-260 C, limiting PM emissions from the resin conveyor stacks (RESCONV1 and RESCONV2) according to the following equation:

$$E = 4.10P^{0.67}$$

Where

E = emission rate in lbs/hr

P = process weight rate in tons/hr

Additionally, a requirement to control PM emissions from the resin conveyor stacks (RESCONV1 and RESCONV2) using a fabric filter has been included. The facility currently controls the mixing units with baghouses; including the control requirement in the permit simplifies monitoring required to demonstrate compliance with the PM emission limit for those units.

Monitoring

Based on the above formula and the maximum rated capacity of each resin conveyor (RESCONV1 and RESCONV2) of 10 TPH, the maximum allowable PM emission rate for each conveyor is

$$\begin{aligned} E &= 4.10P^{0.67} \\ &= (4.10) \times (10^{0.67}) \\ &= 19.2 \text{ lbs /hr} \end{aligned}$$

A conservative engineering assumption made by PolyOne in its application is that one percent of the material conveyed becomes airborne and is transferred to the baghouse. At the maximum capacity of 10 TPH, 200 lbs PM would be delivered to the filter, which, if operating properly, may be assumed to be 99.9% efficient for resin dust. Controlled emissions at the maximum capacity of the conveyors would therefore be 0.2 lbs PM/hr, well below the allowable level. Therefore, periodic monitoring to ensure proper baghouse performance would provide a reasonable assurance of compliance with the hourly PM limit.

The permit requires PolyOne to perform weekly inspections of the resin conveyor stacks to assess the presence of visible emissions. If visible emissions are seen from either stack, PolyOne will determine the cause of the visible emissions and take corrective action until baghouse operation resumes with no visible emissions.

If a baghouse is operating properly, there should be no visible emissions from the unit. This is so because the device eliminates particulates, which are the source of the visible emissions. Therefore, if visible emissions are seen from a baghouse stack, it can be reasonably assumed that there is a problem with the control device.

Visible emissions have been selected as the indicator because they are indicative of good operation and maintenance of a baghouse. If the baghouse is not functioning properly, visible emissions will be present. Therefore, visible emissions are an acceptable performance indicator.

The weekly inspections satisfy the periodic monitoring requirement for particulate emissions from the resin conveyors.

Recordkeeping

The permit requires PolyOne to maintain records necessary to demonstrate compliance. Such records include annual throughput processed by the conveyors, the annual hours of operation of each unit, and records of the weekly stack inspection results and any subsequent correction.

Testing

The permit requires that the facility be constructed so as to allow for emissions testing at any time using appropriate methods, as required by 9 VAC 5-40-30. The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

STORAGE TANK REQUIREMENTS – Emission Unit IDs TNK-0021 through TNK-0026 and TNK-0061 through TNK-0066

The following requirement is derived from 40 CFR 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984:

For each storage vessel, the permittee shall keep readily-accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Such record shall be kept for the life of the vessel.

Each of the storage tanks listed above has a capacity of 15,000 gallons and was installed after July 23, 1984. According to 40 CFR 60.110b(b), because the tanks are less than 75 m³ (19,817 gallons) in capacity, they are subject to recordkeeping requirement (40 CFR 60.116b (a) and (b)) only.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE-ONLY ENFORCEABLE REQUIREMENTS

The minor NSR permit issued 1/16/01 contains conditions derived from 9 VAC 5-50-160 (Toxics Rule) and designated state-only enforceable. The requirements have been included in the state-only applicability section of the Title V permit.

FUTURE APPLICABLE REQUIREMENTS

The facility is a major source of HAPs from its painting operations. It is possible that PolyOne may be subject to upcoming Maximum Achievable Control Technology (MACT) standards for surface coating of Paper and Other Webs or Plastic Parts and Products under 40 CFR 63 and 9 VAC 5 Chapter 60, both of which are scheduled for proposal on November 15, 2000.

INAPPLICABLE REQUIREMENTS

No inapplicable requirements were identified by the applicant.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
PHTR4	Natural-gas-fired burner, Lembo oven	9 VAC 5-80-720 C		2.4 MMBtu/hr
PHTR5	Natural-gas-fired burner, Laminator 3 oven	9 VAC 5-80-720 C		1.2 MMBtu/hr
PHTR6 – 9	(4) natural-gas-fired burners, Paint Line 3 oven Zones 1 – 4	9 VAC 5-80-720 C		2 MMBtu/hr each
PHTR10	Natural-gas-fired burner, Paint Line 3 oven preheat	9 VAC 5-80-720 C		0.8 MMBtu/hr
PHTR11-14	(4) natural-gas-fired burners, Paint Line 2 oven Zones 1 – 4	9 VAC 5-80-720 C		2 MMBtu/hr each
PHTR15	Natural-gas-fired burner, Paint Line 1 dryer	9 VAC 5-80-720 C		0.8 MMBtu/hr
GEN21	Diesel emergency generator Bldg 2	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
GEN22	Diesel emergency generator Bldg 14A	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
GEN23	Diesel emergency generator Bldg 54	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
PUMP24	Diesel fire control system water pump	9 VAC 5-80-720 C		267 HP (engine)
ICENG1	Gas IC engine powered equipment (portable cement mixer, 2 portable welders, saw, port. generator, etc.)	9 VAC 5-80-720 C		~ < 20 HP
CLNR1-4	(5) parts cleaners	9 VAC 5-80-720 B	VOC, HAPs	
HWC1	Hazardous waste compactor	9 VAC 5-80-720 B	VOC, HAPs	
TNK1	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK2	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK3	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	11,732 gal

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
TNK4N	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7614 gal
TNK4S	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7614 gal
TNK5	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	14,500 gal
TNK8	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7500 gal
TNK9	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	9964 gal
TNK12	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	7400 gal
TNK13	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	250 gal
TNK14	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	6600 gal
TNK15	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK16	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK17	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK18	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK19	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK30	Storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK31	Storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7500 gal
TNK32	Storage tank, stabilizer	9 VAC 5-80-720 B	VOC, HAPs	7500 gal
TNK41	Storage tank, hot oil expansion	9 VAC 5-80-720 C	VOC, HAPs	275 gal
TNK42	Storage tank, kerosene	9 VAC 5-80-720 B	VOC, HAPs	275 gal
VAC1	Large portable vacuum cleaners	9 VAC 5-80-720 B	PM, PM-10, HAPs	N/A
CROTRT1	Corona treaters, laminators	9 VAC 5-80-720 B	Ozone (as VOC)	~14MM yd vinyl/yr
RCYCL1	Vinyl recycling systems	9 VAC 5-80-720 B	PM, PM-10	N/A
PEMB1	Post embosser	9 VAC 5-80-720 B	VOC, HAPs	~4.5MM yd vinyl/yr
LAM1	Laminator 1 (including embossing and material mixing)	9 VAC 5-80-720 B	VOC, HAPs	16 yd ² vinyl/hr average

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

PolyOne did not submit a request for confidentiality. All portions of the title V application are suitable for public review.

PUBLIC PARTICIPATION

The draft permit was placed on public notice in the Winchester Star from February 14, 2001 to March 15, 2001. No comments from the public were received.

ATTACHMENTS

Attachment A: 1998 Emissions Summary

Attachment B: Minor NSR Permit issued 1/16/01

Attachment C: CAM Plan submitted by PolyOne